

Remarks/Arguments:

Claims 1-4, 10, 12-20, 26, 28-31, and 48-52 remain for consideration in this application with claims 1, 16, 48, 49, 50, 51, and 52 being in independent format. These claims, together with the remarks hereunder overcome the rejections of the Office Action dated June 15, 2004.

Claims 1-4, 9-20, 25-31, and 48-50 were rejected under 35 U.S.C. 112, second paragraph for indefiniteness of the term "near." This term has been replaced with conditions comprising a temperature of from about 0.9-1.3 T_c of the reactant mixture and a pressure of from about 0.9-2.5 P_c of the reactant mixture. Accordingly, applicants assert that this rejection has been overcome.

Claims 1, 2, 4, and 9-12 were rejected under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 5,907,075 to Subramaniam et al., (Subramaniam). Claim 3 was rejected under 35 U.S.C. 103(a) over Subramaniam in view of U.S. Patent No. 4,056,578 to McClure et al., (McClure). The present claims have been amended to recite that the reaction mixture comprises the reactants and the reaction products of the reaction. Such a recitation clarifies that the reactant mixture and reaction mixture are two different mixtures that would have two different near-critical or supercritical due to the presence of reaction products in the reaction mixture. As noted in the previous office action response and the declaration of Dr. Bala Subramaniam, if the conditions are supercritical relative to the reaction mixture, all species are kept in a single homogenous phase thereby preventing the desired separation of the heavier products, (which preferentially collect in the macropores using the methods of the present invention) from the C_8 alkylation products. In contrast, if the process keeps temperatures in the supercritical range relative to the reactant mixture as claimed herein, the desired separation of the C_8 alkylation products occurs

and the heavier products collect in the macropores of the catalyst. It is now clear that an amendment clarifying that the reaction mixture includes the reaction products differentiates the present claims from the methods disclosed in Subramaniam which kept the temperatures near-critical or supercritical to the reaction mixture and not the reactant mixture as claimed herein. McClure adds nothing further in this regard and therefore, applicants assert that these amendments overcome the obviousness rejections of the Office Action.

Applicants assert that new claim 51 is also patentable over the art of record in that it is similar to claim 1, however, the phrase "reactant mixture" has been replaced with "feed mixture" to more clearly differentiate this phrase from the reaction mixture. The other amendments discussed herein are also present in this new claim. Support for the phrase "feed mixture" can be found at page 4, line 20 which states that the reactant mixture is the reactants "fed" to the reactor, page 9, line 14 which refers to starting the olefin "feed" pump, and Examples 3 and 5 which describe the reactants as feed. Applicants respectfully assert that this claim also overcomes the rejections of the Office Action.

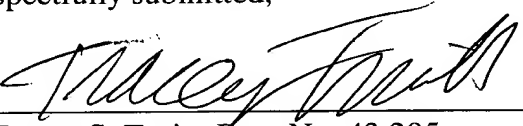
Applicants also assert that new claim 52 is patentable over the art of record in that it is identical to claim 1, however, it is limited to an alkylation reaction. During the personal interview which took place on September 22, 2004, the Examiner indicated that the Subramaniam declaration provided with the previous response was ineffective at establishing enablement of anything other than an alkylation reaction. Moreover, because claim 1 was not limited to an alkylation reaction, the rejection of claim 1 would remain because the claim 1 covered any reaction having the recited steps. Applicants note that no enablement rejection has been raised in this, or any previous action related to this application. However, because the issue

has been raised, applicants assert that all heterogeneous reactions are enabled because the steps recited in the claims would be performed in all of the different types of reactions. The specification specifically mentions alkylation, acylation, isomerization, aromatic disproportionation, alcohol synthesis, and Fischer-Tropsch reactions at page 3, lines 22-25. There is also no question that alkylation reactions performing the claimed steps are fully enabled by the specification. One of skill in the art would be able to take the teachings of the specification and perform the claimed steps in any one of these different reactions. Accordingly, applicants have not amended their independent claims to recite any specific type of reaction because no such rejection exists and if one is contemplated, it should be overcome by the preceding argument.

A check in the amount of \$55 is enclosed for the Petition for Extension of Time. A second check in the amount of \$44 is also included to cover the fee for one (1) additional independent claim not included in the original petition. Any additional fee which is due in connection with this amendment should be applied against our Deposit Account No. 19-0522.

In view of the foregoing, a Notice of Allowance appears to be in order and such is courteously solicited.

Respectfully submitted,

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